

Application No.: 09/764,001  
Filed: January 17, 2001  
Group Art Unit: 1754

please delete the current Abstract and replace it with the following:

E1  
The invention provides a catalyst, a method for making the catalyst and a method for using the catalyst to promote the selective oxidation of hydrogen sulfide into elemental sulfur. The catalyst may be prepared by contacting a catalyst support, such as silica, with a mixed oxide having atomically mixed iron ions and zinc ions, to produce a support material impregnated with a mixed oxide having atomically mixed iron ions and zinc ions in an oxidic lattice. This impregnated catalyst support is then dried and calcined, preferably with chloride ions present, to produce a catalyst of an iron and zinc oxide mixture supported on silica. It has been found that when chloride is added to the impregnated catalyst support prior to calcination and drying, the sintering of the iron and zinc can be controlled more easily and the formation of iron and zinc oxide is promoted. It has also been found that the catalyst of the invention exhibits improved selectivity characteristics when compared to a catalyst prepared without the chloride.

#### In the Claims

Please rewrite the indicated claims to read as follows:

- E2
1. A catalyst on a support for the selective oxidation of sulfur-containing compounds to elemental sulfur, comprising at least one catalytically active material that is present on a support material, wherein the catalytically active material comprises a mixed oxide having atomically mixed iron ions and

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E2  
zinc ions in an oxidic lattice, which catalyst has a specific surface area of more than 20 m<sup>2</sup>/g and exhibits substantially no reversing Claus activity under the reaction conditions of said selective oxidation.

E3  
24. A method according to claim 21 or 22, wherein the chloride is ammonium chloride.

25. A method according to claim 23, wherein the chloride is ammonium chloride.

Please cancel claims 18, 26 and 27.

Please add the following new claims:

28. A catalyst according to claim 1, wherein said catalyst has a specific surface area of 20 to 300 m<sup>2</sup>/g.

E4  
29. A catalyst according to claim 1, wherein said catalyst has a specific surface area of 25 to 300<sup>0</sup> m<sup>2</sup>/g and an average pore radius within a range of 100 to 500 Å.  
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